

**What is claimed is:**

1 1. A method for encoding frames of image data, each frame including a plurality of  
2 blocks, comprising:

3 encoding with one or more quantization levels in a first range of quantization  
4 levels selected blocks of one frame in the sequence;

5 bypassing encoding of blocks of the one frame not selected for encoding;

6 encoding with one or more quantization levels in a second range of quantization  
7 levels in another frame that follows the one frame, blocks that correspond to blocks  
8 bypassed for encoding in the one frame; and

9 bypassing encoding of blocks of the other frame that correspond to the selected  
10 blocks of the the one frame.

1 2. The method of claim 1, wherein the selected blocks in the one frame include  
2 blocks having a levels of change that exceed a selected threshold.

1 3. The method of claim 2, wherein the first range of quantization levels has levels  
2 greater levels of the second range of quantization levels.

1 4. The method of claim 1, wherein the data comprises moving picture data, the  
2 selected blocks in the one frame include blocks having data representing a picture in  
3 which motion is detected, and the blocks of the one frame bypassed for encoding have  
4 data representing a picture in which no motion is detected.

1 5. The method of claim 4, wherein levels in the first range are greater than levels in  
2 the second range.

1 6. A method for encoding frames of image data, each frame including a plurality of  
2 blocks, comprising:

3 encoding with one or more levels from a first range of quantization levels selected  
 4 ones of the blocks in a sequence of frames, wherein the selected ones of the blocks  
 5 comprise a first subset of blocks;

6 bypassing encoding of blocks that are not members of the first subset of blocks,  
 7 wherein the blocks bypassed in encoding comprise a second subset of blocks;

8 encoding with a levels from a second range of quantization levels in a frame that  
 9 follows the sequence of frames, blocks that correspond to the second subset of blocks;

10 and

11 bypassing encoding of blocks of the frame that follows the sequence of frames  
 12 that do not correspond to the second subset of blocks.

1 7. The method of claim 6, wherein the first subset of blocks is comprised of blocks  
 2 having a levels of change that exceed a selected threshold.

1 8. The method of claim 6, wherein the data comprises moving picture data, the first  
 2 subset of blocks have data representing a picture in which motion is detected, and the  
 3 second subset of blocks have data representing a picture in which no motion is detected.

1 9. The method of claim 8, wherein levels in the first range of quantization levels are  
 2 greater than levels in the second range of quantization levels.

1 10. The method of claim 6, further comprising terminating encoding the sequence of  
 2 frames with levels of the first range after a predetermined number of frames.

1 11. The method of claim 10, further comprising alternating between encoding a  
 2 sequence of frames using the first range and bypassing blocks in the sequence of frames,  
 3 and encoding a frame using the second range and bypassing blocks that do not correspond  
 4 to the second subset of blocks.

1 12. The method of claim 6, further comprising terminating encoding the sequence of  
2 frames using the first range after a predetermined period of time.

1 13. The method of claim 12, further comprising alternating between encoding a  
2 sequence of using the first range and bypassing blocks in the sequence of frames, and  
3 encoding a frame using the second range and bypassing blocks that do not correspond to  
4 the second subset of blocks.

1 14. The method of claim 6, further comprising:  
2 counting bits output in encoding the sequence of frames using the first range as a  
3 total number of bits;  
4 terminating the sequence of frames encoded using the first range after the total  
5 number of bits exceeds a predetermined threshold.

1 15. The method of claim 14, further comprising alternating between encoding a  
2 sequence of frames using the first range and bypassing blocks in the sequence of frames,  
3 and encoding a frame using the second range and bypassing blocks that do not correspond  
4 to the second subset of blocks.

1 16. A method for encoding frames of image data, each frame including a plurality of  
2 blocks, comprising:

3 encoding selected ones of the blocks in a sequence of frames at a first range of  
4 quality levels, wherein the selected ones of the blocks comprise a first subset of blocks;

5 bypassing encoding of blocks that are not members of the first subset of blocks,  
6 wherein the blocks bypassed in encoding comprise a second subset of blocks;

7 encoding at a second range of quality levels in a frame that follows the sequence  
8 of frames, blocks that correspond to the second subset of blocks; and

9 bypassing encoding of blocks of the frame that follows the sequence of frames  
10 that do not correspond to the second subset of blocks.

- 1 17. The method of claim 16, wherein the first range of quality levels is less than the  
2 second range of quality levels.
- 1 18. The method of claim 17, wherein the first subset of blocks is comprised of blocks  
2 having a levels of change that exceed a selected threshold.
- 1 19. The method of claim 17, wherein the data comprises moving picture data, the first  
2 subset of blocks have data representing a picture in which motion is detected, and the  
3 second subset of blocks have data representing a picture in which no motion is detected.
- 1 20. An apparatus for encoding frames of image data, each frame including a plurality  
2 of blocks, comprising:  
3 means for encoding with one or more quantization levels in a first range of  
4 quantization levels a first subset of blocks of one frame in the sequence;  
5 means for bypassing encoding of blocks of the one frame that are not in the first  
6 subset of encoded blocks, wherein the blocks bypassed in encoding comprise a second  
7 subset;  
8 means for encoding with one or more quantization levels in a second range of  
9 quantization levels in another frame that follows the one frame, blocks that correspond to  
10 the second subset of blocks of the one frame; and  
11 means for bypassing encoding of blocks of the other frame that do not correspond  
12 to the second subset of blocks of the one frame.
- 1 21. A system for communication of frames of image data, comprising:  
2 a memory arranged to store input frames segmented into blocks;  
3 an encoder coupled to the memory, configured and arranged to selectably encode  
4 blocks from the memory at a selectable quality level, decode encoded blocks, and store  
5 decoded blocks;

6 a motion search element coupled to the memory and to the encoding circuit, the  
7 motion search element configured and arranged to detect image motion in input blocks  
8 relative to corresponding ones of the decoded, stored blocks; and

9 an encoding controller coupled to the motion search element and to the encoding  
10 circuit, the encoding controller configured and arranged to select between two or more  
11 quality levels for encoding blocks having moving image data and blocks having still  
12 image data, and bypass encoding of selected blocks for each of the quality levels.

1 22. The system of claim 21, wherein the first subset of blocks is comprised of blocks  
2 having a levels of change that exceed a selected threshold.

1 23. The system of claim 21, wherein the data comprises moving picture data, the first  
2 subset of blocks have data representing a picture in which motion is detected, and the  
3 second subset of blocks have data representing a picture in which no motion is detected.

1 24. The system of claim 21, wherein the encoding controller is further configured and  
2 arranged to terminate encoding the sequence of frames with levels of the first range after  
3 a predetermined number of frames.

1 25. The system of claim 21, wherein the encoding controller is further configured and  
2 arranged to terminate encoding the sequence of frames using the first range after a  
3 predetermined period of time.

1 26. The system of claim 21, wherein the encoding controller is further configured and  
2 arranged count bits output in encoding the sequence of frames using the first range as a  
3 total number of bits and terminate the sequence of frames encoded using the first range  
4 after the total number of bits exceeds a predetermined threshold.

1 27. The system of claim 21, wherein the encoding controller and motion search  
2 element are implemented with a RISC and DSP processor arrangement.

1 28. A method for encoding image data, comprising:  
 2 encoding with one or more quantization levels in a first range of quantization  
 3 levels selected portions of one segment of image data;  
 4 bypassing encoding of portions of the one segment not selected for encoding;  
 5 encoding with one or more quantization levels in a second range of quantization  
 6 levels in another segment having image data that temporally follows image data of the  
 7 one segment, portions that correspond to bypassed portions of the one segment; and  
 8 bypassing encoding of portions of the other segment that correspond to portions  
 9 encoded in the one segment.

1 29. The method of claim 28, wherein the selected portions in the one frame have  
 2 levels of change that exceed a selected threshold.

1 30. The method of claim 29, wherein the first range of quantization levels has levels  
 2 greater levels of the second range of quantization levels.